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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,029	12/22/2004	Chris L Miller	AD6863USPCT	7642
7590 09/07/2007 Tamera L Fair E I Du Pont De Nemours and Company Legal Patent Records Center 4417 Lancaster Pike Wilmington, DE 19805			EXAMINER ROBINSON, ELIZABETH A	
			ART UNIT 1773	PAPER NUMBER
			MAIL DATE 09/07/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,029	<b>Applicant(s)</b> MILLER ET AL.	
	<b>Examiner</b> Elizabeth Robinson	<b>Art Unit</b> 1773	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 states, "A method of transporting a device to prevent radiant thermal energy absorption by a surface..." It is unclear what surface this is referring to, the device or some part of the transport structure. All other claims depend from claim 1 and are thus rendered indefinite.

Regarding claim 10, the thickness of the layers is stated as preferably ranging from about 0.02 mm to about 1.00 mm. With the wording of preferably, it is unclear if this limitation is required for the claim, thus rendering the scope of the claim indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischer et al. (US 4,759,964).

Regarding claim 1, Fischer (Column 1, lines 5-11) teaches a structural panel for an airplane floor with layers of fiber-reinforced materials and a high melting point material layer. Airplanes transport devices. Fischer (Column 3, lines 18-34) teaches that the high melting point layer prevents hot gasses from burning the layer situated below and thus prevents radiant thermal energy absorption. This panel is comprised of the following layers. The layer that corresponds to layer a) of the instant application is the layer comprised of the core layer 4 with a layer 3 attached to each side (See Column 2, line 58 through Column 3, line 34 and the Figure). The layers 3 are fiber layers impregnated by a resin. The fibers can be carbon fibers (column 4, lines 25-29). The layers that correspond to the layers b) of the instant application are the layers 2. This layer (Column 2, lines 14-21) is made of a metal foil and is thus reflective. The layers that correspond to layers c) of the instant application are the layers 1. The layers 1 are fiber layers impregnated by a resin. The fibers can be glass fibers (column 4, lines 25-29). The impregnating resin can be epoxy (Column 3, lines 10-13).

Regarding claim 2, Fischer (Column 1, line 65 through Column 2, line 5) teaches that the fiber-reinforced outer layer protects the metal film layer.

Regarding claim 3, Fischer (Column 3, lines 18-34) teaches that the metal layer 2 prevents hot gasses from passing through the layer and burning the layer below and thus prevents the absorption of thermal energy by a heat sensitive material.

Regarding claim 4, Airplanes transport cellular phones and flat panel display screens.

Regarding claim 5, Fischer (Column 2, lines 14-21) teaches that the metal film can be made from aluminum, copper, steel or any other foil or film having a melting point higher than 400°C.

Regarding claim 7, Fischer (Column 3, line 3-13 and Column 4, lines 25-29) teaches that the glass fiber epoxy resin can comprise a glass fiber fabric impregnated with epoxy resin.

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fischer et al. As stated above, Fischer teaches a composite structure that meets the limitations of claim 1. Fischer further teaches that the carbon fiber layer is protected from hot gasses by gas tight layer 2 (Column 3, lines 18-34). Fischer does not explicitly teach the properties of the composite structure as it is exposed to low pressures. However, the structure would inherently need to meet such levels to ensure that the structure does not explosively delaminate in a lower pressure environment that an airplane would experience.

***Claim Rejections - 35 USC § 103***

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al.

Regarding claim 8, as stated above, Fischer teaches a composite structure that meets the limitations of claim 1. Fischer does not teach the type of glass fibers used in the glass fiber epoxy layer. E-glass is the most common type of glass fiber. It would be obvious to one of ordinary skill in the art to use a common form of glass fiber as the glass fiber of Fischer.

Regarding claim 9, Fischer does not teach the type of epoxy resin used. The most common type of epoxy resin is the condensation product of epichlorohydrin and bisphenol-A. It would be obvious to one of ordinary skill in the art to use the common form of epoxy resin as the epoxy resin of Fischer.

Regarding claim 10, Fischer (Column 3, lines 18-34) teaches the thickness of the metal layer as being thinner than 0.1 mm, preferably between 0.02 and 0.05 mm. Fischer further teaches that this thickness is chosen to minimize the weight of the floor panel. Thus, the thickness of the layers are result effective variables that determine the weight of the structure. Fischer does not explicitly state the thickness of the other layers of the composite structure. It would be obvious to one of ordinary skill in the art to vary the thickness of these layers to obtain in a panel of a desired weight.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is 571-272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ear

  
**CAROL CHANEY**  
**SUPERVISORY PATENT EXAMINER**